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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/558,359   | 11/22/2006  | Atsuhiko Ohta        | AI 394NP            | 3869             |
| 23995  | 7590        | 01/30/2009           | EXAMINER            |                  |
| RABIN & Berdo, PC<br>1101 14TH STREET, NW<br>SUITE 500<br>WASHINGTON, DC 20005 |             |                      | YEE, DEBORAH        |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 1793                |                  |
|  |             |                      | MAIL DATE           | DELIVERY MODE    |
|  |             |                      | 01/30/2009          | PAPER            |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                    |  |
|------------------------------|--------------------------------------|------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/558,359 | <b>Applicant(s)</b><br>OHTA ET AL. |  |
|                              | <b>Examiner</b><br>Deborah Yee       | <b>Art Unit</b><br>1793            |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 to 7, 13 and 14 is/are rejected.
- 7) ☒ Claim(s) 8 to 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/8/08; 12/22/06; 11/25/05</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 8 and 9 are objected to because of the following informalities:
2. In Claim 8, "the steering rack includes a main body and a rack teeth forming portion including plural rack teeth and provided to part of a peripheral surface of the main body" which is awkwardly recited. It is recommended to use language such as – the steering rack includes a main body and a rack teeth forming portion comprising plural rack teeth which is provided as part of the peripheral surface of the main body--.
3. Claim 9, line 6 "(3/4)0" should be – (3/4) D--. Appropriate correction is required.
4. Claim 6, line 6, "bymassorless (excluding o% by mass)" should be –by mass or less (excluding 0% by mass)

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 to 7, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,454,883 ("Yoshie"), US Patent 4,765,849 ("Roberts") or Japanese patent 405222450 ("Fujioka").
7. Yoshie in claim 2 in columns 37-38, Roberts in claims 1 to 5 of columns 5-6 and Fujioka in the English abstract and columns 1 and 2, each teach steel bar or plate having a composition with constituents whose wt% ranges overlap those recited by

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claim 1 to 6; and such overlap establishes a prima facie case of obviousness because it would be obvious for one skilled in the art to select the claimed alloy wt% ranges over the broader disclosure of the prior art since prior art teaches similar properties such as high hardness, strength and toughness, see MPEP 2144.05.

8. In addition, prior art steel is processed in substantially the same manner as recited by claims 4 to 6 comprising the steps of subjecting steel to hot rolling, quench hardening to form bainite and martensite followed by tempering at temperature and time ranges that overlap those recited by the claims.

9. Although prior art does not teach having a bainitic-martensitic structure in a portion of the steel at a depth of  $D/4$  ( $D$  is diameter), such difference in depth hardening would be matter of choice and routine optimization well within the skill of the artisan to select depending on the desired level of hardenability sought, which is productive of no new and unexpected results.

10. Although prior art does not teach using steel to making steering rack as recited by the claims, such would not be a patentable consideration since it is merely Applicant's future and intended. Also prior art teaches using steel for structural components, which would broadly include rack as recited by claims 7, 13 and 14.

### ***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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12. Claims 1 to 7, 13 and 14 are rejected under 35 U.S.C. 102 (a) as being anticipated by Japanese patents 2003-166036 ("Ota") which was cited by Applicant in IDS filed November 25, 2005.

13. The English abstract of Ota discloses a steering rack made from a steel bar that anticipates claims 1 to 7, 13 and 14.

***Priority***

14. Applicant cannot rely upon the foreign priority papers to overcome the Ota rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

***Allowable Subject Matter***

15. Claims 8 to 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Also objection to claims 8 and 9 with regard to typo-errors need to be correct

16. The following is a statement of reasons for the indication of allowable subject matter: The art of record does not teach or suggest a steering rack formed using a steel bar, as recited by the claims 8 to 12, wherein steering rack includes a main body and a rack teeth forming portion comprising plural rack teeth which is provided as part of the peripheral surface of the main body, a hardening layer having undergone induction quenching and tempering is provided at least to the rack teeth forming portion; and the rack teeth forming portion has a surface hardness of 680 to 800 HV in Vickers hardness; and in addition to optionally one or more of the claimed limitations: a case

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hardened depth in teeth bottom portion is 0.1 to 1.5 mm and preferably 0.3 to 1.2 mm ; no residual ferrite is contained in the teeth bottom portion in a 0.1 mm deep region from surface; and portion of depth of (3/4D) from a surface that opposes the rack teeth forming portion in the radius direction is quenched and tempered to contain tempered bainitic structure and tempered martensitic structure of 30 to 100% in area percentage.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on monday-friday 6:00 am-2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Deborah Yee/  
Primary Examiner  
Art Unit 1793

/DY/  
17.